

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
18 August 2005 (18.08.2005)

PCT

(10) International Publication Number
WO 2005/074573 A3

(51) International Patent Classification:
H01S 3/00 (2006.01)

(21) International Application Number:
PCT/US2005/002908

(22) International Filing Date: 31 January 2005 (31.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/540,799 30 January 2004 (30.01.2004) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

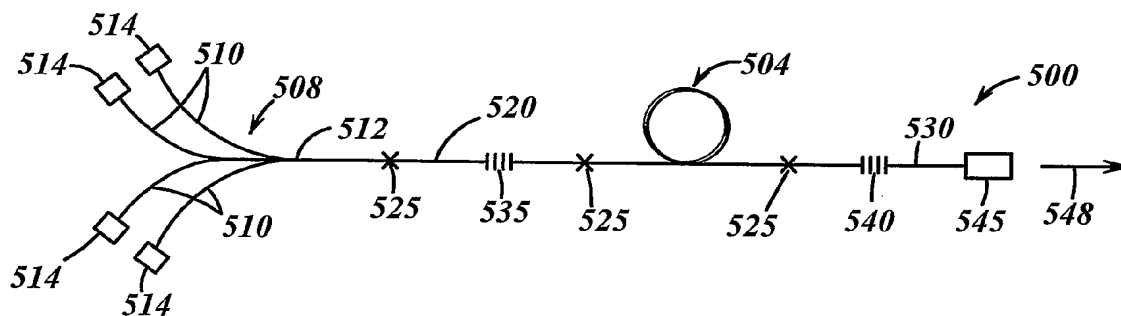
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR PROVIDING LIGHT HAVING A SELECTED POLARIZATION WITH AN OPTICAL FIBER



(57) Abstract: Optical apparatus (110, 500, 600, 800, 1000) for providing light having a selected linear polarization having a polarization ratio, the apparatus (110, 500, 600, 800, 1000) comprising a length of optical fiber (120, 504, 604, 804, 1001) comprising a rare earth for providing light having a first wavelength responsive to receiving pump light having a second wavelength that is different than said first wavelength, wherein if the length of optical fiber (120, 504, 604, 804, 1004) were placed in a first position between the length of fiber (120, 504, 604, 804, 1004) is substantially linearly oriented (20) the fiber (120, 504, 604, 804, 1004) could propagate at the first wavelength a fundamental mode and a plurality of higher order modes and the apparatus (110, 500, 600, 800, 1000) could provide light having a first polarization ratio for the selected linear polarization and an M^2 parameter, and wherein the length of fiber (120, 504, 604, 804, 1004) is positioned in a second position that increases the bend loss of the fiber relative to the first position such that, responsive to the increased bend loss, the apparatus (110, 500, 600, 800, 1000) can provide light having a reduced M^2 parameter as well as a second polarization ratio for the selected polarization that is increased relative to the first polarization ratio, the increase being at least 6 dB greater than the first polarization ratio, and wherein when the length of fiber (120, 504, 604, 804, 1004) is in the second position the apparatus (110, 500, 600, 800, 1000) can provide a slope efficiency that is at least 50 % of the ratio of the second wavelength to the first wavelength.

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(88) Date of publication of the international search report:

26 October 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/02908

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) : HO1S 3/00

US CL : 359/341.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 359/341.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/0159139 A1 (Koplow et al) 31 October 2002 (31.10.2002) figure 5.	1-19

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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Date of the actual completion of the international search

19 December 2005 (19.12.2005)

Date of mailing of the international search report

17 AUG 2006

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